

CLAIMS

1. A soft magnetic composite powder used for producing a soft magnetic compact, wherein the surface of a soft magnetic material powder is covered with an electrical insulating material comprising at least an inorganic insulating material, and wherein a resin material is fusion-bonded to the surface of the inorganic insulating material so as to partially cover the surface of the soft magnetic material powder.
2. The soft magnetic composite powder according to claim 1, wherein the surface of the soft magnetic material powder is covered with an inorganic insulating layer containing the inorganic insulating material, and wherein the resin material is fusion-bonded to the inorganic insulating layer.
3. The soft magnetic composite powder according to claim 1, wherein the electrical insulating material contains the resin material.
4. The soft magnetic composite powder according to claim 1, wherein the inorganic insulating material is a glass material.
5. The soft magnetic composite powder according to claim 1, wherein the soft magnetic material powder is an amorphous soft magnetic alloy.
6. The soft magnetic composite powder according to claim 1, wherein the soft magnetic composite powder is granulated with the resin material.
7. A method for producing a soft magnetic composite powder comprising a soft magnetic material powder whose surface is covered with an electrical insulating material containing at least an inorganic insulating material and a resin material fusion-bonded to the surface of the inorganic insulating material so as to partially cover the surface of the soft magnetic material powder, the method comprising: covering the soft magnetic material powder

with the electrical insulating material; mixing the soft magnetic material powder with the resin material; and fusing the resin material to the inorganic insulating material.

8. The method according to claim 7, wherein the inorganic insulating material is a glass material, and further comprising forming a glass layer by fusing the glass material to the surface of the soft magnetic material powder; and then fusing the resin material to the glass layer.

9. The method according to claim 7, wherein the glass material is a low melting point glass.

10. A method for producing a soft magnetic composite powder comprising a soft magnetic material powder whose surface is covered with an electrical insulating material containing at least an inorganic insulating material and a resin material fusion-bonded to the surface of the inorganic insulating material so as to partially cover the surface of the soft magnetic material powder, the method comprising: mixing the soft magnetic material powder, the inorganic insulating material and the resin material, thereby covering the surface of the soft magnetic material powder with the inorganic insulating material and the resin material and fusing the resin material to the inorganic insulating material.

11. A method for producing a soft magnetic compact, the method comprising: filling a die with a soft magnetic composite powder comprising a soft magnetic material powder whose surface is covered with an electrical insulating material containing at least an inorganic insulating material and a resin material fusion-bonded to the surface of the inorganic insulating material so as to partially cover the surface of the soft magnetic material

powder; pressurizing the powder for obtaining a pressured powder, and firing the pressurized powder for obtaining a fired body.

12. A method for producing a soft magnetic compact, the method comprising: adding a resin material to a soft magnetic composite powder comprising a soft magnetic material powder whose surface is covered with an electrical insulating material containing at least an inorganic insulating material and a resin material fusion-bonded to the surface of the inorganic insulating material so as to partially cover the surface of the soft magnetic material powder; and kneading the mixture, thereby obtaining an injection-molded body of the kneaded mixture.